



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,939	04/24/2001	Mototsugu Abe	09792909-4998	5606
26263 7590 08/04/2009 SONNENSCHN NATH & ROSENTHAL LLP P.O. BOX 061080 WACKER DRIVE STATION, WILLIS TOWER CHICAGO, IL 60606-1080				
EXAMINER				
ATALA, JAMIE JO				
ART UNIT		PAPER NUMBER		
2621				
MAIL DATE		DELIVERY MODE		
08/04/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

09/840,939

**Applicant(s)**

ABE ET AL.

**Examiner**

JAMIE JO VENT ATALA

**Art Unit**

2621

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3-22, 25-30, 32-51 and 55-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-22, 25-30, 32-51 and 55-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see applicants remarks, filed May 18, 2009, with respect to Claim 1 have been fully considered and are persuasive. The non-final rejection of February 17, 2009 has been withdrawn.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3,4,5,6,7,8,9,10,11,12,13,14,15,18,19,22,25,26,27,28,29,30,32,33,34, 35,36,37,38, 39,40,41,42,43,44,47,48, 51, 55, 56, 57, 58, 59, and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable by Nafeh (US 5,343,251) in view of Shikunami (US 6,718,121) in view of Goldshmidt (US 6,226,444) in further view of Hook (US 6,100,941).

#### **[claim 1]**

In regard to Claim 1, Nafeh discloses a signal-processing apparatus and method comprising:

- Candidate-detecting unit which receives an input signal part from an input signal (Figure 1a line 12) in time-divided fashion (Column 2 Lines 55-62 and Column 5 lines 41-42) and identifies the characteristic patterns in a portion of the input

signal part indicating the probability that the input signal is a candidate part (Column 2 Lines 64-68 describes the classification of the signals coming into the system at predetermined timing. Furthermore in Column 6 Lines 7-12 describe the probability of the input signal being part of a class. It is further noted that a class is defined as a pattern classification system wherein further determining if that part of the signal is part of the candidate signal as described in Column 2 Lines 63+);

- Characteristic-extracting unit which extracts characteristic patterns from the input signal (Column 6 Lines 25-50 describe the extracting of the data to evaluate the input signal); and
- Detecting unit which detects whether the input signal is the candidate part based on the characteristic data extracted by the characteristic-extracting means (Column 6 Lines 25+ describes a detected program to be 1 while the candidate part/commercial is -1); however, fails to disclose the characteristic patterns from the input signal which indicate the probability that the input signal is the candidate part; a determining unit which determines whether the candidate part resulting from the extraction and detection performed by the characteristic extracting unit and the detecting unit is a commercial message, wherein the determining unit determines whether the candidate part is a commercial message by first applying a minimum length priority rule, and then applying an adjacent candidate priority rule based on the result of the minimum-length priority rule and then applying a score priority rule based on the result of the adjacent candidate priority rule.

Shikunami discloses a system that processes information to determine if the information being sent through the system is a commercial or television program. As seen in Figure 3 the probability calculating portion (5) analyzes the inputted signal in determining the probability that part of the signal is a program or commercial as further analyzed in Figure 7. Furthermore, as described in Column 8 Lines 1-67 the calculating process for the probability of the signal being a program or CM is discussed to further describe the process of analyzing the input signal. The detection of the signal being a program or CM is based on the extracted data from the input signal as described in Column 7 Lines 32-67. Additionally, Column 6 Lines 57-64 describe the use of calculating the probability of the input signal in determining proper playback and recording sequences. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the candidate detecting and characteristic extracting system, as taught by Nafeh, and further incorporate analysis involving the characteristic patterns associated with the input signal and determining the probability that the input signal is a CM or a program, as taught by Shikunami, to allow for proper processing of the video signal into the recording system.

Furthermore, Goldshmidt teaches a system wherein a determining unit that determines the candidate part of the signal based on rules as described in Column 6 Lines 4-67 and Column 7 Lines 1-67. The rules set in order to determine the signal being processed by the system allows for the signal to be analyzed properly for commercial detection. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the candidate detecting and extracting system that allows for probability of the signals, as disclosed by Nafeh in view of Shikunami, and further incorporate a system that determines the candidate part of the signal based on rules, as taught by Goldschmidt, in order to allow the system to detect and eliminate commercial message for recording content with advertisements present.

It is additionally taught by Hook to provide a system for interactive advertisement wherein the commercial is based on selection of current content and various rules associated with the input stream (Figure 7 and described in Column 10 Lines 63+ through Column 12 Line 34). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the classifying of input signals, as disclosed by Nafeh in view of Shikunami in further view of Goldschmidt, and further incorporate the classifying of the signals based on rules, as taught by Hook, in order to provide a fully operable system to allow desired commercials to be processed by the user and the system.

**[claim 3]**

In regard to Claim 3, Nafeh discloses a signal processing apparatus and method wherein the detecting means includes determining unit which determines from the extracted characteristic data if the signal part is identical to a previously designated input signal part (Column 2 Lines 65+ describe that once it is determined that the candidate part of the signal is classified a control signal is sent out for further determination of other signals if it identical as well as using the features indicated in Column 3 Lines 28-30).

**[claim 4]**

In regard to Claim 4 Nafeh discloses a signal processing apparatus and method comprising amplitude-detecting unit for detecting an amplitude of the input signal and detected amplitudes of the input signal smaller than a predetermined value at a predetermined interval are extracted by the character-extracting unit as a characteristic pattern indicating the probability that the input signal is a candidate part (Column 3 Lines 34-36 "Changes in power or amplitude over the frequency spectrum between program and commercial segments" and further described in Column 3 60+).

**[claim 5]**

Art Unit: 2621

In regard to Claim 5, Nafeh discloses an apparatus and method comprising a candidate detecting unit further comprises a change-detecting unit which detects a change in the input signal and detected changes in the input signal greater than a predetermined value at a predetermined time interval are extracted by the character-extracting unit as characteristic pattern indicating the probability that the input signal part is the candidate part of its value (Column 3 Lines 40-42 describe detecting the change in pattern of the transmission at a value within the predetermined time intervals and further described in Column 5 Lines 30-37).

**[claim 6]**

In regard to Claim 6, Nafeh discloses an apparatus and method comprising the candidate detecting unit further comprises a uniform-component detecting means for detecting a unit period in which a prescribed component of the input signals fall within a prescribed range and detects a pattern that is prescribed component of the input signal for the unit period at a predetermined time intervals are extracted by the character-extracting unit as a characteristic pattern indicating the probability that the input signal is the candidate part (Column 1 Lines 44-55 describe the patterns used for detection as well as the predetermined conditions/time that is used for the characteristic patterns).

**[claim 7]**

In regard to Claim 7, Nafeh discloses a method and apparatus wherein the detecting unit includes an amplitude detecting unit which detects an amplitude of the input signal and the character extracting unit extracts the amplitude detected by the amplitude detecting unit as a characteristic data indicating the probability that input signal part is the candidate part (Column 3 Lines 20+ describes the extraction of amplitude from the input signal to indicated if a commercial can be detected within the first signal part.)

**[claim 8]**

Art Unit: 2621

In regard to Claim 8, Nafeh discloses a method and apparatus wherein the detecting unit includes an amplitude detecting unit which detects an amplitude of the input signal and the characteristic extracting unit extracts the length of the input signal part as the characteristic data indicating the probability that the input signal part is the candidate part where the amplitudes of another signal part preceding and/or following the input signal part are smaller than a predetermined threshold (Column 3 Lines 60+ through Column 4 Lines 1-30 describes the detection of the amplitude and extraction of length and mean of the amplitude in the input signal and determination if the candidate part/commercial is within a predetermined condition which is accomplished through comparisons of the minimum, maximum, mean and the median of the amplitude.)

**[claim 9]**

In regard to Claim 9, Nafeh discloses the signal processing apparatus wherein the detecting unit includes a correlation detecting unit which detects the correlation between a left and right audio portion of the input signal and the characteristic extracting unit extracts the correlation coefficient from input signal part as characteristic data indicating probability that input signal part is the candidate part (Column 3 Lines 50-60 describes the correlation between the left and right audio portions and the relationship between the character extraction).

**[claim 10]**

In regard to Claim 10, the claim limitations have been discussed in the rejection of Claim 8.

**[claim 11]**

In regard to Claim 11, the claim limitations have been discussed in the rejection of Claim 8.

**[claim 12]**

In regard to Claim 12, the claim limitations have been discussed in the rejection of Claim 8.

**[claim 13]**



In regard to Claim 13, Nafeh discloses a detecting unit includes a mode-detecting unit which detects a mode of the input signal part and the characteristic extracting unit extracts the mode of the candidate part as characteristic data indicating probability of the first signal part (Column 5 lines 30+ describe detection of modes/features and the extraction of the candidate part/commercial from the characteristic data/input signal).

**[claim 14]**

In regard to Claim 14, Nafeh discloses a characteristic extracting unit extracts the existence of the first signal part in signal that precedes or follows the candidate part as characteristic data indicating probability of the first signal part (Figure 1A extracts the existence of the commercial while Column 5 Lines 30+ describe the classification process).

**[claim 15]**

In regard to Claim 15, Nafeh discloses a spectrum-detecting means for detecting a spectrum of the input signal, and extracts a change of the spectrum before or after the candidate part as characteristic data indicating probability of the first signal part (Column 3 lines 20+ describes all the possibilities for detecting the spectrum of the input signal).

**[claim 18]**

In regard to Claim 18, Nafeh discloses a characteristic extracting unit for identifying a source of the input signal and the characteristic extracting unit extracts a type of the source of the candidate part as characteristic data indicating probability of the first signal part (Figure 1A shows the possible input sources while the pre-processor/feature extraction 22 extracts the type of the source of the input data while determining the probability of the signal).

**[claim 19]**

In regard to Claim 19, Nafeh discloses an apparatus and method that comprises a timer which measures time and the characteristic-extracting unit extracts the time at which the candidate

Art Unit: 2621

part is input as characteristic part is input as characteristic data indicating probability of the first signal part (Column 1 Lines 25+ describe the use of timers to time the candidate part so thereby it won't be recorded onto a video recorder).

**[claim 22]**

In regard to Claim 22, the claim limitations have been discussed in the rejection of Claim 8.

**[claim 25]**

In regard to Claims 25 Nafeh discloses a signal processing apparatus comprising:

- Recording and / or reproducing the input signal (Figure 1F record mode).

**[claim 26]**

In regard to Claims 26 Nafeh discloses a signal processing apparatus comprising:

- Editing the input signal (Figure 1F shows the editing process that can occur).

**[claim 27]**

In regard to Claims 27 Nafeh discloses a signal processing apparatus comprising:

- Skipping the first signal part (Figure 1F shows the skipping mode).

**[claim 28]**

In regard to Claims 28 Nafeh discloses a signal processing apparatus comprising:

- Extracting only the first signal part (Figure 1 element 22 extracts the first part of the signal).

**[claim 29]**

In regard to Claims 29 Nafeh discloses a signal processing apparatus comprising:

- Signal consists of an audio signal and/or a video signal (Figure 1 element 12) and the first signal part is commercial-message part (Figure 1A element 24 classifies if the first signal part is a commercial-message part).

**[claim 30]**

Art Unit: 2621

In regard to Claim 30, the claim limitations have been discussed in the rejection of Claim 1.

**[claim 32]**

In regard to Claim 32, the claim limitations have been discussed in the rejection of Claim 2.

**[claim 33]**

In regard to Claim 33, the claim limitations have been discussed in the rejection of Claim 4.

**[claim 34]**

In regard to Claim 34, the claim limitations have been discussed in the rejection of Claim 5.

**[claim 35]**

In regard to Claim 35, the claim limitations have been discussed in the rejection of Claim 6.

**[claim 36]**

In regard to Claim 36, the claim limitations have been discussed in the rejection of Claim 7.

**[claim 37]**

In regard to Claim 37, the claim limitations have been discussed in the rejection of Claim 8.

**[claim 38]**

In regard to Claim 38, the claim limitations have been discussed in the rejection of Claim 9.

**[claim 39]**

In regard to Claim 39, the claim limitations have been discussed in the rejection of Claim 8.

**[claim 40]**

In regard to Claim 40, the claim limitations have been discussed in the rejection of Claim 8.

**[claim 41]**

In regard to Claim 41, the claim limitations have been discussed in the rejection of Claim 8.

**[claim 42]**

In regard to Claim 42, the claim limitations have been discussed in the rejection of Claim 13.

**[claim 43]**

Art Unit: 2621

In regard to Claim 43, the claim limitations have been discussed in the rejection of Claim 14.

**[claim 44]**

In regard to Claim 44, the claim limitations have been discussed in the rejection of Claim 15.

**[claim 47]**

In regard to Claim 47, the claim limitations have been discussed in the rejection of Claim 18.

**[claim 48]**

In regard to Claim 48, the claim limitations have been discussed in the rejection of Claim 19.

**[claim 51]**

In regard to Claim 51, the claim limitations have been discussed in the rejection of Claim 8.

**[claim 55]**

In regard to Claims 55, Nafeh discloses a signal-processing apparatus according to claim 1, wherein the detecting unit includes characteristic-evaluating unit for evaluating the possibility that the input signal part is the first signal part on the basis of the characteristic data, and determining means for determining the first signal part from the result of evaluation performed by the characteristic-evaluating means (Column 2 Lines 63+ through Column 3 Lines 20-25 describes the characteristic data and the result of data from its evaluation).

**[claim 56]**

In regard to Claim 56, Nafeh discloses a signal-processing apparatus according to claim 55, wherein the characteristic-evaluating means evaluates the possibility that the input signal part is the candidate part, on the basis of characteristic data derived from multiplying weighting values to the characteristic data and adding the weighted characteristic data (Column 6 Lines 5-40 describes the characteristic evaluating means to determine the first signal part based on multiplying weighted values.)

**[claim 57]**

In regard to Claim 57, Nafeh discloses a signal-processing apparatus according to claim 55, wherein the characteristic-evaluating unit uses a multi-layer perception to determine the possibility that the candidate part of the first signal part (Figure 1d shows the multi-layer network wherein characteristic-evaluation is determined and described in Column 5 Lines 64-67).

**[claim 58]**

In regard to Claim 58, the claim limitations have been discussed in the rejection of Claim 55.

**[claim 59]**

In regard to Claim 59, the claim limitations have been discussed in the rejection of Claim 56.

**[claim 60]**

In regard to Claim 60, the claim limitations have been discussed in the rejection of Claim 57.

3. Claims 16, 20, 21, 45, 49, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nafeh (US 5,343,251) in view of Shikunami (US 6,718,121) in further view Goldshmidt (US 6,226,444) in view of Hook (US 6,100,941) in further view of Shah-Nazaroff et al (US 6,671,880).

**[claim 16]**

In regard to Claim 16, Nafeh in view of Shikunami discloses a means that extracts information but lacks the extraction of channel information of the input signal selected a channel from a plurality of channels as characteristic data indicating probability of the first signal part. Shah-Nazaroff teaches a system that identifies commercials as well as extract channel information and the likelihood/probability that the characteristics are within that signal as seen in Figure 4. By extracting channel information it allows the system to determine

Therefore, it would be obvious to one skilled in the art at the time of the invention to modify the apparatus/method for classifying patterns of television programs and commercials, as disclosed by Nafeh in view of Shikunami and incorporate a system that extracts channel information, as disclosed by Shah-Nazaroff et al, which allows for a better computation of the probability of commercials to be detected through certain channels and how to respond to the commercials.

**[claim 20]**

In regard to Claims 20, Nafeh in view of Shikunami discloses a means that extracts information from an input signal but lacks a genre-identifying means for identifying a genre of the input signal, and extracts the genres of the signal parts preceding and following the candidate part as characteristic data indicating probability of the first signal part. Shah-Nazaroff et al discloses extraction of characteristic, such as genres, in order to determine user characteristics which in turn allow for the probability a certain commercial within that type of program (Column 4 Lines 12+).

Therefore, it would be obvious to one skilled in the art at the time of the invention to incorporate the extracting information from the input signal, as disclosed by Nafeh in view of Nageo et al, and incorporate a further extraction means as determining specific genres of the programs and commercials, as disclosed by Shah-Nazaroff et al, in order for classification and identifying specific genres associated with the candidate and characteristic data parts of the signal.

**[claim 21]**

In regard to Claim 21, the claim limitations have been discussed in the rejection of Claim 20.

**[claim 45]**

In regard to Claim 45, the claim limitations have been discussed in the rejection of Claim 16.

**[claim 49]**

In regard to Claim 49, the claim limitations have been discussed in the rejection of Claim 20.

**[claim 50]**

In regard to Claim 50, the claim limitations have been discussed in the rejection of Claim 20.

4. Claims 17 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nafeh (US 5,343,251) in view of in view of Shikunami (US 6,718,121) ) in further view Goldshmidt (US 6,226,444) view of Shah-Nazaroff et al (US 6,671,880) in view of Hook (US 6,100,941) in further view of Kawara et al (US 6,278,836).

**[claim 17]**

In regard to Claim 17, Nafeh in view of Shikunami discloses a means that extracts information from an input signal but lacks the extraction of an area code of the input signal that can have any one of different area codes as characteristic data indicating probability of the first signal part. Kawara et al discloses a reproducing system that programs information according to area codes that specify a certain area thereby indicating the characteristic data for that particular area as seen in Figure 4. This allows for special programming to occur in various countries due to the recognition of these countries by the area codes.

Therefore, it would be obvious to one skilled in the art at the time of the invention to incorporate the extraction of information, as disclosed by Nafeh in view of Shikunami in view of Shah-Nazaroff, and incorporate a system that takes an input signal that has various area codes that will identify the input signal according to the said area codes, as disclosed by Kawara et al, by incorporating this feature would allow for further identification, classification, and evaluation of the input signal.

**[claim 46]**

In regard to Claim 46, the claim limitations have been discussed in the rejection of Claim 17.

***Contact Fax Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMIE JO VENT ATALA whose telephone number is (571)272-7384. The examiner can normally be reached on 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).